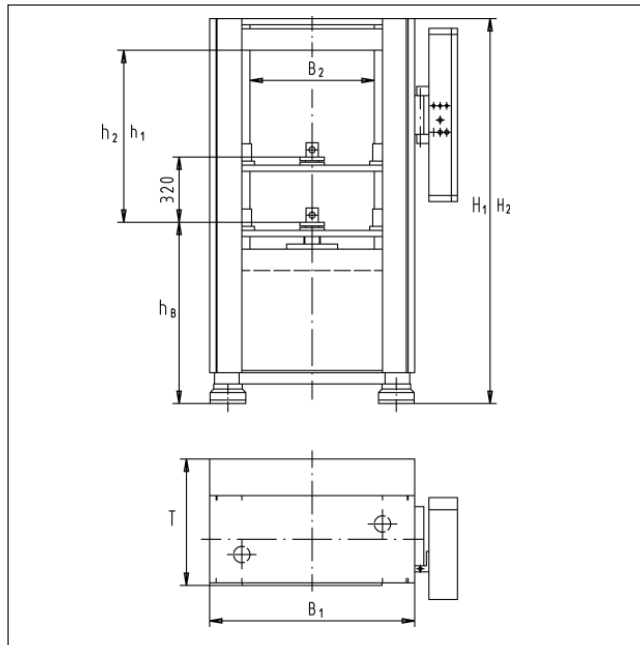
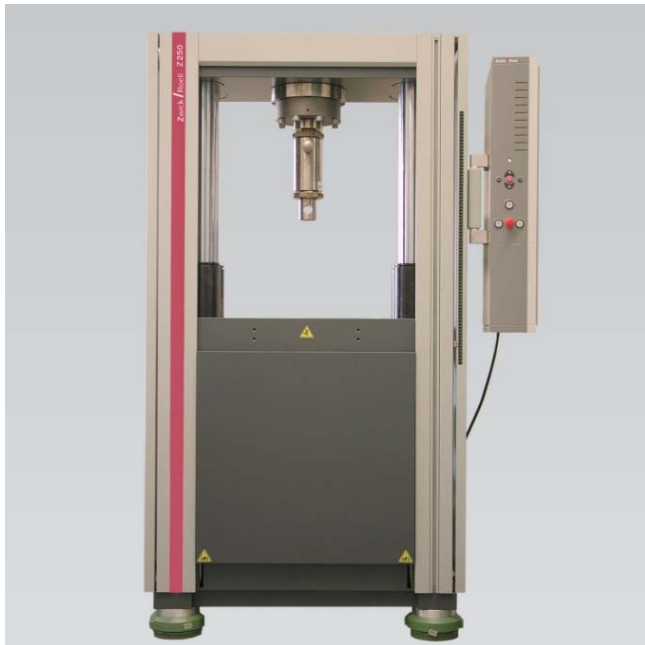


## Product Information

### Zwick Z100/Z250 materials testing machine with central ball-lead screw



#### Advantages of the Zwick Z100/Z250 materials testing machine with central ball-lead screw

The force transmission results via a central ball-lead screw. Thus a very good force flow with direct force transmission to the specimen is obtained during the test. The moving crosshead ensures the lateral guidance of the test axis and is not subjected to bending loads. Separation of these loads within the frame and exact guidance of the columns ensures the highest precision in the crosshead movement. An especially good axial longitudinal parallelism and a high linearity in the movement of the gripping elements are the results.

Due to the above named advantages Zwick materials testing machines with central ball-lead screw are appointed for the following applications with particularly high demands:

- Low-Cycle-Fatigue tests (LCF) as mechanical, thermal or thermal-mechanical loading
- Examination of intercrystalline reactions and of microstructural material behaviour
- Stress-rupture tests in force- or extension-controlled operation, also for medium-term and long-term intervals
- Mechanical fracture tests, crack growth and critical energy density
- Compression tests on plate springs or clutch springs

- Tensile-, compression- and bending tests on ceramics, especially in the range of high temperatures up to 1600°C
- Relaxation and retardation tests

for example on metals, ceramics, stone and plaster specimen, composites, component parts and springs.

#### Further advantages

- Maintenance free drive technology and low-noise drive through use of a brush-free AC motor.
- High stiffness of the load frame (500 kN/mm)
- Exact determination of even small forces through large measurement ranges (from 0.2 % kN class 1, from 1 % class 0.5) without changing equipment.
- Use of the entire Zwick accessories program through modular construction of the entire system (e.g. attachment of the most varied extension measurement systems, specimen grips and other work units).
- Simple adaption of testing tools for new requirements by using a T-slot or bolt system (e.g. using a calibration master load cell with the T-slot system).

## Product Information

### Zwick Z100/Z250 materials testing machine with central ball-lead screw

Model:	Dimensions	Z100	Z250	Z250
Drive			central ball-lead screw	
Item-no.				
testControl, standard height		BP1-F0100ZN.T04	BP1-F0250ZN.T04	BP1-F0250ZN.F04
testControl, standard height		BPC-F0100ZN.T04	BPC-F0250ZN.T04	BPC-F0250ZN.F04
testControl, shortened		BP1-F0100ZS.T04	BP1-F0250ZS.T04	BP1-F0250ZS.F04
testControl, shortened		BPC-F0100ZS.T04	BPC-F0250ZS.T04	BPC-F0250ZS.F04
Maximum test force (tensile/compression)	[kN]	100	250	250
Number of columns		2	2	4
Maximum crosshead travel without tools/grips TS	[mm]	320	320	320
Test speed	[mm/min]	0,0005...600	0,0005...600	0,0005...600
Dimensions of load frame				
Height H <sub>1</sub> , standard	[mm]	2188	2188	2216
Height H <sub>2</sub> , shortened	[mm]	1888	1888	1916
Height h <sub>B</sub>	[mm]	889	889	993
width B <sub>1</sub>	[mm]	1006	1006	1006
depth T	[mm]	620	620	620
Stiffness of load frame without tools/grips	[kN/mm]	500	500	500
Entire deformation of load frame incl. drive and load cell				
tensile/compression	[kN/mm]	150	150	165
Dimensions test area				
Height h <sub>1</sub> , standard	[mm]	1068	1068	1068
Height h <sub>2</sub> , shortened	[mm]	768	768	768
width B <sub>2</sub>	[mm]	610	610	610
Weight of load frame without tools/grips (incl. electronics)	(standard) [kg] (shortened) [kg]	1200 1100	1200 1100	1650 1550
Specific floor loading	[kg/cm <sup>2</sup> ]	1,9 1,7	1,9 1,7	2,6 2,4
Force measurement accuracy with load cell		from 0,2 kN class 1 from 1 kN class 0,5	from 0,5 kN class 1 from 2,5 kN class 0,5	
Resolution of crosshead travel	[µm/Impuls]	0,0083	0,0083	0,0083
Position accuracy	[µm]	± 2	± 2	± 2

#### Environmental conditions:

Operating temperature	[°C]	+10 up to 35		
Storage temperature	[°C]	-25 up to 55		
Humidity range	[%]	≤ 90%, non condensing		
Electrical connection voltage		3 x 400~/N/PE		
Short-period dips	[V]	(± 10% in relation to the connection voltage)		
Limits for permanent interference	[ms]	≤ 20		
Mains frequency	[Hz]	50/60 (± 1% in relation to the nominal frequency of 50/60 Hz)		
Power supply	[kVA]	6		
Colour coating of load frame		RAL 7037 (dust grey) and RAL 7038 (achaf grey)		
Noise level at 1 m	[dB(A)]	< 65		